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STUDIES IN RELIABILITY AND INFERENCE(U) COLUMBIA UNIV  
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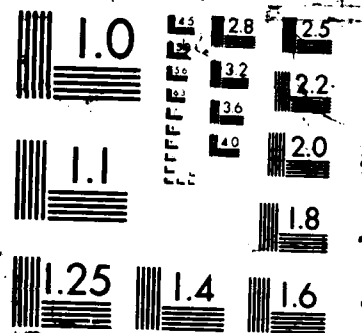
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During this one year the grant research was continued on new problems in parameter estimation. Other research centered on the "anti-search" problems of target detection and on problem and models of optimal repair allocation. Finally, a mini-conference on "Statistical probability and Related Topics was organized.

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The following is a summary of the progress achieved on research described in (1)

Robbins continued his research on the "U-V" method of estimation and prediction. The technical report (4) is related to this subject.

Robbins, together with S. Lalley, worked on the following "anti-search" problem. In searching for a target that is known to be somewhere within a plane domain with a smooth boundary, we would like to use a randomized search path (to make evasion difficult) that spends equal times in equal areas (is "ergodic"). Previous results that hold only when the domain is a circle have been generalized to the case of an arbitrary convex domain, and the asymptotic nature, as  $\epsilon \rightarrow 0$ , of the time required to get within  $\epsilon$  of an arbitrary point of the domain has been determined.

Katehakis continued his research on problems and models of optimal repair allocation for systems that operate continuously and possess limited repair capacity; where the objective is to determine dynamic repair allocation policies that yield a maximum value to a measure of performance of the system such as the availability of the system, the (mean) time between system failures, the number of functioning components at any instance, etc.. Papers (2) and (3) are related to such problems.

Finally, we organized a mini-conference on "Statistical Reliability and Related Topics" that was held at Columbia University in the summer of 1987.

## REFERENCES

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